## STATUS OF THE CLAIMS

- 1. (Original) A process for producing a silane-crosslinked thermoplastic polymer comprising:
  - a. providing a mixture of:
  - (i) at least one silane possessing an unsaturated organic function;
  - (ii) at least two free radical initiators, the first initiator having a first half-life temperature and the second initiator having a second half-life temperature being higher than said first half-life temperature;
  - (iii) at least one thermoplastic polymer; and,
  - b. reacting the mixture of step (a) under reactive mechanical-working conditions and exposure to moisture to provide crosslinked polyolefin.
- 2. (Original) The process of Claim 1 wherein the thermoplastic polymer is at least one polyolefin selected from the group consisting of high-pressure low-density polyethylene, medium/low-pressure high-density polyethylene, low-pressure low-density polyethylene, medium-density polyethylene, an ethylene-α-olefin copolymer, polypropylene, an ethylene-ethyl acrylate copolymer, an ethylene-vinyl acetate copolymer, an ethylene-propylene copolymer, an ethylene-propylene-diene terpolymer, an ethylene-butene copolymer, polymethyl-pentene-1, polybutene, chlorinated polyethylene, an ethylene-vinyl acetate-chlorine terpolymer, and the like, and mixtures thereof.

- 3. (Original) The process of Claim 1 wherein the silane possesses the general formula RR'SiY<sub>2</sub> wherein R represents a monovalently olefinically unsaturated hydrocarbon or hydrocarbonoxy radical, each Y represents a hydrolysable organic radical and R represents an R radical or a Y radical.
- 4. (Original) The process of Claim 3 wherein the R radical or the Y radical is selected from the group consisting of vinyl, allyl, butenyl, cyclohexenyl, cyclohexenyl, cyclohexadienyl,

$$CH_2 = C(CH_3)COO(CH_2)_3 \; ,$$
 
$$CH_2 = C(CH_3)COOCH_2CH_2O(CH_2)_3 \; \text{ and }$$
 
$$OH \; |$$
 
$$CH_2 = C(CH_3)COOCH_2CH_2OCH_2CHCH_2O(CH_2)_3 \; .$$

- 5. (Original) The process of Claim 3 wherein the group Y represents a hydrolysable organic radical selected from the group consisting of alkoxy radicals, acyloxy radicals, oximato radicals and amino radicals.
- 6. (Original) The process of Claim 3 wherein the silane is vinyl triethyoxysilane and/or vinyl trimethoxysilane.
  - 7. (Original) The process of Claim 1 wherein the 0.1 hour half-life temperatures of

the first free radical initiator is from about 80° to about 160°C.

- 8. (Original) The process of Claim 1 wherein the 0.1 hour half-life temperatures of the first free radical initiator is from about 90° to about 155°C.
- 9. (Original) The process of Claim 1 wherein the 0.1 hour half-life temperature of the second free radical initiator is from about 125° to about 190°C.
- 10. (Original) The process of Claim 1 wherein the 0.1 hour half-life temperature of the second free radical initiator is from about 140° to about 170°C.
- 11. (Original) The process of Claim 7 wherein the first free radical initiator is selected from the group consisting of di (2,4-dichloro benzoyl) peroxide, tert-butyl peroxypivalate, dilauroyl peroxide, dibenzoyl peroxide, tert-butyl peroxy-2-ethylhexanoate, 1,1 di(tertbutylperoxy)-3,3,5-trimethylcyclohexane, di(tertbutylperoxy) cyclohexane, tert-butyl peroxy-3,5,5-trimethylhexanoate, tert-butyl peroxyacetate, tert-butylperoxybenzoate, di-tert-amyl peroxide, dicumyl peroxide, di(tert-butylperoxyisopropyl)benzene and 2,5-dimethyl-2,5-di(tert-butylperoxy)hexane.
- 12. (Original) The process of Claim 9 wherein the second free radical initiator is selected from the group consisting of tert-butyl peroxyacetate, tert-butylperoxybenzoate, di-tert-amyl peroxide, dicumyl peroxide, di(tert-butylperoxyisopropyl)benzene, 2,5-dimethyl-2,5-di(tert-butylperoxy)hexane, tert-butyl cumyl peroxide, 2,5-dimethyl-2,5-di(tert-butylperoxy)hexyne-3 and di-tertbutylperoxide.

- 13. (Original) The process of Claim 1 wherein mixture (a) further includes at least one additional component selected from the group consisting of catalysts, stabilizers, fillers, antioxidants, processing aids, oils, plasticizers, pigments and lubricants.
  - 14. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 1.
  - 15. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 2.
  - 16. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 3.
  - 17. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 4.
  - 18. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 5.
  - 19. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 6.
  - 20. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 7.
  - 21. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 8.
  - 22. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 9.
  - 23. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 10.

- 24. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 11.
- 25. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 12.
- 26. (Withdrawn) The crosslinked polyethylene produced by the process of Claim 13.
- 27. (Withdrawn) A composition comprising:
- (i) at least one silane possessing an unsaturated organic function;
- (ii) at least two free radical initiators, the first initiator having a first half-life temperature and the second initiator having a second half-life temperature, said second half-life temperature being higher than said first half-life temperature;
  - (iii) optionally one or more condensation catalysts;
- (iv) optionally, one or more stabilizers, stabilizer packages, inhibitors or free radical scavengers; and,
  - (v) optionally, other additives such as fillers, colorants, processing aids, etc.